

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (currently amended). A method for sharing a storage device among a plurality of ~~computers~~storage network controllers while providing data integrity in the storage device, the method comprising the steps of:

registering a ~~particular~~first one of the plurality of ~~computers~~storage network controllers with the storage device by storing in the storage device a first ~~computer~~storage network controller identifier of the first storage network controller and an indicator of ~~associated with~~a reserved access type of access which the first storage network controller is permitted to make to ~~the~~the storage device;

detecting a failure of the registered ~~computer~~storage network controller; and

in response to detection of the failure, performing steps of:

de-registering the registered ~~computer~~storage network controller with the storage device; and

re-registering the registered ~~computer~~storage network controller with the storage device by storing in the storage

device a second ~~computer~~-identifier of the first network storage controller, the second identifier ~~that differing~~ from the first ~~computer~~-identifier.

Claim 2 (currently amended). The method as claimed in Claim 1 wherein the registered ~~computer~~-storage network controller is a currently registered ~~computer~~storage network controller.

Claim 3 (currently amended). The method as claimed in Claim 1 wherein the registered ~~computer~~-storage network controller is a previously registered ~~computer~~storage network controller.

Claim 4 (currently amended). An apparatus for sharing a storage device among a plurality of ~~computers-storage network controllers~~ while providing data integrity in the storage device, the apparatus comprising:

a register routine which:

registers a ~~computer-storage network controller~~ with ~~a~~ the storage device by storing in the storage device a first ~~computer-identifier~~ of the storage network controller and an indicator of ~~associated with a reserved access-type~~ of access which the storage network controller is permitted to make to ~~the~~ the storage device;

upon detection of a failure of the registered ~~computer-storage network controller~~:

de-registers the registered ~~computer-storage network controller~~ with the storage device; and

re-registers the registered ~~computer-storage network controller~~ with the storage device by storing in the storage device a second ~~computer-identifier~~ of the storage network controller that differs from the first ~~computer-identifier~~ identifier..

Claim 5 (currently amended). An apparatus as claimed in Claim 4 wherein the registered ~~computer~~storage network controller is a currently registered ~~computer~~storage network controller.

Claim 6 (currently amended). An apparatus as claimed in Claim 4 wherein the registered storage network controller~~computer~~ is a previously registered storage network controller~~computer~~.

Claim 7 (previously presented). An apparatus for sharing a storage device among a plurality of storage network controllersecomputers while providing data integrity in the storage device, the apparatus comprising:

means for registering a ~~particular~~first one of the plurality of storage network controllersecomputers with a shared storage device by storing in the storage device a first identifier of the first storage network controller and an indicator of a ~~associated with a reserved access~~type of access which the first storage network controller is permitted to make to ~~for the shared~~storage device;

means for detecting a failure of the registered storage network controllersecomputer;

means, responsive to the means for detecting the failure, comprising:

means for de-registering the registered storage network controllersecomputer with the storage device; and

means for re-registering the registered storage network controllersecomputer with the storage device by storing in the storage device a second ~~computer~~identifier of the storage network controller that differs from the first ~~computer~~identifier.

Claim 8 (currently amended). An apparatus as claimed in Claim 7 wherein the registered storage network controller ~~computer~~ is a currently registered storage network controller ~~computer~~.

Claim 9 (currently amended). An apparatus as claimed in Claim 7 wherein the registered storage network controller ~~computer~~ is a previously registered storage network controller ~~computer~~.

Claim 10 (currently amended). An apparatus as claimed in Claim 7 wherein the identifier for each of the plurality of storage network controllers ~~computer~~ is unique.

Claim 11 (currently amended). A computer system comprising:

a central processing unit connected to a memory bus by a system bus;

an I/O system, connected to the system bus by a bus interface,
the I/O system including a storage network controller; and

a routine for providing data integrity in a storage device shared by the computer system with another computer system, the routine:

registering the storage network controller ~~computer system~~
with the ~~shared~~ storage device by storing in the storage device a
first identifier of the storage network controller and an indicator
of a ~~associated with a reserved access type~~ of access which the
first storage network controller is permitted to make to ~~for the~~
~~shared~~ storage device;

detecting a failure of the registered computer system; and
in response to detection of the failure:

de-registering the storage network controller
~~computer system~~ with the storage device; and

re-registering the storage network controller
~~computer system~~ with the storage device by storing in the
storage device a second ~~computer~~ identifier of the storage
network controller that differs from the first ~~computer~~
identifier.

Claim 12 (currently amended). A computer program product for providing data integrity in a storage device shared by a plurality of computers including a plurality of storage network controllers, the computer program product comprising a computer usable medium having computer readable program code thereon, including program code which:

registers a ~~particular~~ first one of the plurality of ~~computers~~ storage network controllers with the shared storage device by storing in the storage device a first identifier of the first storage network controller and an indicator of a ~~associated with a reserved access type~~ of access which the first storage network controller is permitted to make to ~~for the shared storage device;~~
and

upon detection of a failure of the registered computer:

de-registers the registered storage network controller ~~computer~~ with the storage device; and

re-registers the registered storage network controller ~~computer~~ with the storage device by storing in the storage device a second ~~computer~~ identifier of the first storage network controller that differs from the first ~~computer~~ identifier.